REMARKS

The Examiner did not examine claim 86. Applicant asserts that claim 86 is a currently pending claim and respectfully requests that claim 86 be examined.

Applicants have amended claims 50 and 76 and have canceled claims 1-34 during prosecution of this patent application. Applicants are not conceding in this patent application that said amended and canceled claims are not patentable over the art cited by the Examiner, since the claim amendments and cancellations are only for facilitating expeditious prosecution of this patent application. Applicants respectfully reserve the right to pursue said amended and canceled claims, and other claims, in one or more subsequent continuations and/or divisional patent applications.

The Examiner rejected claims 35-85 under 35 U.S.C. § 101 because the claimed invention is allegedly directed to non-statutory subject matter.

Applicant respectfully traverses the § 101 rejections with the following arguments.

35 U.S.C. § 101

The Examiner rejected claims 35-85 under 35 U.S.C. § 101 because the claimed invention is allegedly directed to non-statutory subject matter.

The Examiner argues: "Claims 35, 50, 65, and 76 are not statutory because the claims merely recite computing steps without producing any concrete, useful result and tangible result and/or being limited to a practical application within the technological arts. For example the step of generating C child nodes in claims 35, 50, 65, and 76 does not produce any concrete, useful and tangible result."

In response, Applicants asserts that claims 35, 50, 65, and 76 produce a concrete, useful, and concrete result, because claims 35, 50, 65, and 76 recite sorting S sequences of bits in ascending or descending order and storing the sorted S sequences in memory areas A_1, A_2, ..., A_S of a memory device. In particular, claims 35, 50, 65, and 76 recite "storing in A_p either U or the element pointing to U", which is illustrated in step 14 of FIG. 5 as described in the specification, page 36, lines 9-10 ("Step 14 outputs the elements of E in the A array; i.e., for each element in E, the output pointer P is incremented by 1 and the element is stored in A_P."). The initialization step of "setting an output index P = 0" and the recursive execution of the program code which includes "incrementing P by 1" and "storing in A_P either U or the element pointing to U"each time that the condition "the elements in node E collectively include or point to no more than one unique sequence U of the S sequences" is satisfied results in the sorted S sequences (or pointers thereto) being stored in memory areas A_1, A_2, ..., A_S.

Applicant respectfully maintains that the sorted S sequences is a useful result inasmuch as

sorting is beneficially used in countless applications as one of ordinary skill in the art would know. Many issued patents claim sorting algorithms and are thus presumed to be statutory under 35 U.S.C. § 101. For example, Wagner (US Patent App. Pub. No. 2002/0174130 A1, filed March 20, 2001), cited by the Examiner as prior art in previous office actions, claims a sorting algorithm (e.g., see Wagner, claim 12). Applicant respectfully requests that the Examiner explain why Applicant's claimed sorting algorithm, which produces a sorted sequences of binary bits in ascending or descending order, is allegedly not a useful result in consideration of the fact that sorting algorithms are claimed in patents issued by the USPTO and are recognized as being statutory under 35 U.S.C. § 101.

Applicant respectfully maintains that storing the sorted S sequences (or pointers thereto) in the memory areas A_1, A_2, ..., A_S is a concrete and tangible result and is generally recognized as such by USPTO Examiners. USPTO Examiners who examine computer software inventions generally acknowledge that storing a result in memory of a memory device satisfies the requirement of producing a concrete and tangible result. Even the references of Lawder (US Patent App. Pub. No. 2003/0004938 A1, filed May 7, 2002) and Wagner (US Patent App. Pub. No. 2002/0174130 A1, filed March 20, 2001), cited by the Examiner as prior art in previous office actions, claim storing a result in computer memory and are thus presumed to be statutory under 35 U.S.C. § 101. See Lawder (claim 1) and Wagner (claim 12). Applicant respectfully requests that the Examiner explain why storing the sorted sequences (or pointers thereto) in memory of a memory device allegedly does not satisfy the requirement of producing a concrete and tangible result.

Applicant notes that the step of generating child nodes (mentioned by the Examiner) is an

intermediate process step that collaborates with the other recited process steps to generate and store the sorted S sequences in the memory areas A_1, A_2, ..., A_S of a memory device and thus produces a concrete, useful, and tangible result .

The Examiner also argues: "Claims 35, 50, 65, and 76 are not statutory because the claims merely recites nonfunctional descriptive material per se. Such claims recite "executing an algorithm", which merely are abstract ideas or concepts, and further the acts are not being applied to appropriate subject matter... The claims lack the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be a composition of matter. As such, they fail to fall within a statutory category."

In response, Applicants assert that the Examiner is incorrect in arguing that "executing an algorithm" in claims 35, 50, 65, and 76" does not recite a series of steps. For example, claim 35 recites:

> "said executing said algorithm comprising sorting S sequences of binary bits in ascending or descending order of a value associated with each sequence ..., said sorting comprising the steps of: designating S memory areas of the memory device as A_1, A_2, , ..., A_S; setting an output index P = 0 and a field index Q = 0; providing a node E having S elements stored therein, said S elements consisting of the S sequences or S pointers respectively pointing to the S sequences; and executing program code ... ".

Applicant respectfully request that the Examiner explain why the recited "sorting", and the specific recited steps that the sorting comprises ("designing", "setting", "providing", "executing",

CONCLUSION

Based on the preceding arguments, Applicant respectfully believes that all pending claims and the entire application meet the acceptance criteria for allowance and therefore request favorable action. If the Examiner believes that anything further would be helpful to place the application in better condition for allowance, Applicant invites the Examiner to contact Applicant's representative at the telephone number listed below. The Director is hereby authorized to charge and/or credit Deposit Account No. 09-0457.

Date: 05/21/2007

Jack P. Friedman
Registration No. 44,688

Schmeiser, Olsen & Watts
22 Century Hill Drive - Suite 302
Latham, New York 12110
(518) 220-1850